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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/670,918	09/29/2000	Frederick F. Lange	1999-385-1	1891

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EXAMINER

LAVILLA, MICHAEL E

ART UNIT	PAPER NUMBER
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1775

DATE MAILED: 12/29/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/670,918

Applicant(s)

LANGE ET AL.

Examiner

Michael La Villa

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 07 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) 16-21 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 5-13, 15 and 22-28 is/are rejected.
- 7) ☒ Claim(s) 3, 4 and 14 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 September 2000 and 07 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 8.
- 4) ☒ Interview Summary (PTO-413) Paper No(s). 10.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:
2. The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.
3. Claim 13 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. It is unclear where applicant finds antecedent support for the added limitation pertaining to "hydrocarbon polymer." It is unclear where the ending limitation pertaining to "another material" is disclosed.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:
5. A person shall be entitled to a patent unless –
 - (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
6. Claims 1, 2, 5-12, 15, and 22-28 are rejected under 35 U.S.C. 102(a) as being anticipated by R.M McMeeking, and Hbaleb K., "Optimal Threshold Strength of

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Laminar Ceramics," *Zeitschrift fuer Metalkund*, 90 [12], 1031 (1999). McMeeking et al. discloses optimized threshold strength laminar ceramics. Particularly, McMeeking refers to optimizing a ceramic laminates disclosed in Rao et al., "Laminar Ceramics That Exhibit a Threshold Strength," *Science* 286 (102) (1 October 1999). This laminate involved layers of alumina/alumina+mullite formed by differential thermal contraction. McMeeking also specifically refers to optimizing a system of partially stabilized zirconia/unstabilized zirconia formed by crystal phase transformation. See McMeeking (Sections 3-7).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:
 - (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.
8. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:
 1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
9. Claims 1, 2, 5-12, 15, and 22-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over R.M McMeeking, and Hbaleb K., "Optimal Threshold Strength

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of Laminar Ceramics," Zeitschrift fuer Metalkund, 90 [12], 1031 (1999).
McMeeking et al. discloses optimized threshold strength laminar ceramics. Particularly, McMeeking refers to optimizing a ceramic laminates disclosed in Rao et al., "Laminar Ceramics That Exhibit a Threshold Strength," Science 286 (102) (1 October 1999). This laminate involved layers of alumina/alumina+mullite formed by differential thermal contraction. McMeeking also specifically refers to optimizing a system of partially stabilized zirconia/unstabilized zirconia formed by crystal phase transformation. See McMeeking (Sections 3-7). McMeeking may not exemplify laminates having optimized threshold strengths as taught as desirable by McMeeking. It would have been obvious to one of ordinary skill in the art at the time of the invention to optimize the threshold strength of the laminates referred to by McMeeking according to the prescription disclosed by McMeeking in order to obtain laminates having optimized threshold strength properties as taught as desirable by McMeeking.

Response to Amendment

- I. In view of applicant's amendments and arguments, the section 112, second paragraph rejections of the Office Action mailed on 10 April 2003 are withdrawn.

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- II. Applicant has filed an IDS citing the various references listed in the Specification. Those references have now been considered by the Examiner.
- III. Applicant has filed a substitute Specification having double-spaced lines, and so the objection to the Specification is withdrawn.
- IV. On 19 December 2003 applicant filed a declaration by Inventor Lange in which Inventor Lange discusses three prior art references cited in applicant's IDS of 7 October 2003.

Inventor Lange's Declaration is satisfactory for removing the first two publications as possible section 102(a) prior art. Declarant has explained that the work described in these publications is that of the inventor applicants. Hence, the articles referred to in the Declaration that were published in Ceramic Transactions and in Science are not deemed to be section 102(a) prior art. Inventor Lange's Declaration is unsatisfactory for removing R.M McMeeking, and Hbaleb K., "Optimal Threshold Strength of Laminar Ceramics," Zeitschrift fuer Metalkund, 90 [12], 1031 (1999) as possible section 102(a) prior art. Declarant explains that this article describes applicant's work. Indeed direct reference is made in this article to the Science article, which, applicant has explained in

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a statement dated 29 September 2000, is the first public disclosure of applicant's work. Declarant explains that the authors have been listed merely to give them credit for their assistance in declarant's research program. As declarant is not an author of this article, it is unclear what is the basis for declarant knowing how authorship was determined. The authors do not suggest that the developed results pertain to declarant's or applicant's work or that the results reported in the article belong to or were derived from anyone else.

Hence, declarant's assertion is not persuasive. Declarant explains that this is a review article of applicant's work written in honor of declarant's birthday. It appears to be correct that the article includes a review of applicant's work and was written in honor of declarant's birthday. Nevertheless, it does not appear to follow that it does not qualify as prior art. The authors of the article characterize the subject of the paper in the first paragraph of the second page of the article. Their stated interest is to optimize parameters for obtaining the largest threshold strength. The subsequent sections of the paper describe the authors' theoretical and computational results in performing the analysis. In performing these investigations the authors appear to start from applicant's

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results provided in the Science article already discussed and develop new results not provided for in the Science article.

Absent proof that these developed results are applicant's results, the paper qualifies as section 102(a) prior art.

Allowable Subject Matter

10. Claims 3, 4, and 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

11. The subject matter of Claims 3, 4, and 14 is not taught or suggested by the reviewed prior art nor by the prior art of record.

Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael La Villa whose telephone number is (703) 308-4428. The examiner can normally be reached on Monday through Friday.

13. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Deborah Jones can be reached on (703) 308-3822. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9310.

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14. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Michael La Villa
December 22, 2003

A handwritten signature in black ink, appearing to read 'Michael La Villa', written in a cursive style.